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Abstract

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INSTRUCTIONAL OBJECTIVES FOR A JUNIOR COLLEGE COURSE IN ARCHITECTURAL DRAWING

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ARCHITECTURAL DRAWING OBJECTIVES: SET # 1

Long Range Goal

The student will be able to find employment in the field of architectural drafting.

End of Course Goals

1. The student will be able to draw a set of working drawings and letter them in a professional manner.
2. The student will have a basic understanding and knowledge of the terminology used in architectural drafting.
3. The student will have a basic understanding of the symbols used in architectural drafting.

Unit I The Plot Plan

Goal: The student will be able to draw a plot plan of a dwelling.

Objective: In class the student will draw a plot plan from the given reference sheets which are provided by his instructor. This will be completed in four lab meetings and the following conditions would be adhered to:

1. The student will locate the position and length of each property leg.
2. The student will locate all structures on the property.
3. The student will show the location of walks, driveways, planting spaces and patio.
4. The student will show and "call-out" all of the property drainage directions.
5. The student will show all of the following dimensions of

dwelling:

a. overall-front to back, side to side

b. Set backs -- front, rear, two sides

c. width of walks, planter, patio slab and width of driveway

Note: No gross errors in the symbols, "notes" and dimensions will be allowed. The quality of the drawing (i. e., line, weight, lettering) will be based on given standards deemed appropriate by the instructor.

Goal: The student will have an understanding of the information and terms used in the plot-plan drawing of a dwelling.

Objective: The student will "note" all of the information on the plot plan he has previously completed in Unit I goal. The following conditions will be adhered to:

1. The student will refer to the information sheets furnished by the instructor.
2. The student will "call-out" and dimension the following:
   a. the legs of the property
   b. the location of the property
   c. the concrete walks and driveway
   d. planter areas
   e. location of utilities:
      1) gas line
      2) water line
      3) electric power
      4) sewer line

f. public property

1) public walk

2) curb

3) driveway approach

4) street

g. fence and gates

3. The student will make the legal description of the property

a. lot number

b. block number

c. tract number

d. city

e. state

4. The student will show the compass direction of the property.

Note: The time allotted for this is three hours of lab time. No gross errors in the dimensions or notes will be allowed. The quality of the lettering and live weight will be based on given standards deemed appropriate by the instructor.

Unit II The Working Floor Plan

Goal: The student will be able to draw a floor plan of a dwelling in a professional manner.

Objective: In class, the student will draw a floor plan from the given reference sheets which are provided by his instructor. This will be completed in eight lab meetings and the following conditions would be adhered to:

1. The student will locate the position of all walls.
   a. exterior
   b. outside corners and offsets
   c. interior partitions
2. The student will locate the position of all doors and windows.
3. The student will "call-out" the types and sizes of all doors and windows.
4. The student will locate all cabinets in the dwelling.
5. The student will show the location of all plumbing fixtures in the dwelling.
6. The student will show the location of the dwelling's rough plumbing.
7. The student will show the location of all appliances and other equipment (i. e., washer, dryer, etc.)
8. The student will "call-out" the material used for the floors, walls and ceiling. (Reference sheets will be furnished by the instructor)
9. The student will be able to draw and "call-out" the following framing members:
   a. ceiling joist
   b. headers
   c. posts

Note: No gross errors in the symbols, "notes" and dimension will be allowed. The quality of the drawing (i. e., line, weight, lettering) will be based on given standards deemed

appropriate by the instructor.

Goal: The student will have an understanding of the information and terms used in the floor plan drawing of a dwelling.

Objective: The student will "note" all of the information on the floor plan he has previously completed in Unit II goal. The following conditions will be adhered to:

1. The student will refer to the information sheets furnished by the instructor.
2. The student will "call-out" and dimension the following:
   a. cast iron soil pipe that connects the water closet to the sewer line and vent.
   b. plumbing walls (the plumbing will be 4 " wider to accept the C. I. S. P.)
   c. Tub access to be shown at the plumbing end of the tub.
   d. hose bibb. (show only the symbol for the rough connection of the garden hose.)

Note: The time allotted for this is two hours of lab time. No gross errors in the dimension or "notes" will be allowed. The quality of the lettering and line weight will be based on given standards deemed appropriate by the instructor.

Unit III Foundation Plan

Goal: The student will be able to draw a foundation plan of a dwelling in a professional manner

Objective: In class, the student will draw a foundation plan from the given reference sheets which are provided by his instructor.

This will be completed in six lab meetings and the following conditions should be adhered to:

1. The student will locate the position of all outside corners and offsets.
2. The student will locate all porches and steps.
3. The student will locate and "call-out" all of the reinforcing steel.
4. The student will "call-out" the thickness of the concrete slab.
5. The student will locate all of the interior bearing footings.

Note: No gross errors in the symbols, "notes" and dimension will be allowed. The quality of the drawing (i. e., line weight, lettering) will be based on given standards de med appropriate by the instructor.

Goal: The student will have an understanding of the information and terms used in the foundation plan drawing of a dwelling.

Objective: The student will "note" all of the information on the foundation plan he has previously completed in Unit III goal. The following conditions will be adhered to:

1. The student will refer to the information sheets furnished by the instructor.
2. The student will "call-out" and dimension the following:
   a. reinforcing steel placement for the patio and porches.
   b. the fireplace footing and steel placement
   c. the column footing location and steel placement
   d. foundation bolt location and size required

Note: The time allotted for this is two lab meetings. No gross errors in the dimension or "notes" will be allowed. The quality of the lettering and line weight will be based on given standards deemed appropriate by the instructor.

ARCHITECTURAL DRAWING OBJECTIVES: SET # 2

UNIT ONE

INTRODUCTION

A. Major Concept

The student shall understand the basic or fundamental premise under which perspective drawings function - the relationship to reality and other graphic forms as well.

B. Objectives

1. The student shall understand the relationship that exists between the various types of pictorial drawings by being able to differentiate between them.

   Base Criterion 95% Class Reaching Standard 95%

2. The student shall become familiar with the multi-view principle to the extent that he can identify any of the three parts that make up orthographic projection.

   Base Criterion 100% Class Reaching Standard 100%

3. The student will list and define in one sentence fifteen component parts of a two point perspective.

   Base Criterion 90% Class Reaching Standard 90%

4. The student shall understand and apply the principle of the revolution of the picture plane.

   Base Criterion 100% Class Reaching Standard 100%

5. Given the plan and elevation of a building, the student will correctly set-up a problem on a 18 x 24 work sheet using the steps described in the text, and develop it to a finished product.

   Base Criterion 80% Class Reaching Standard 80%

UNIT TWO

TWO POINT PERSPECTIVE

A. Major Concept

The student understand the implication involved in constructing an object in two-point perspective.

B. Objectives

1. The student shall understand the importance of the location of the object on the picture plane.

   Base Criterion 100% Class Reaching Standard 95%

2. Using the problem assigned by the instructor, the student will develop the problem to its conclusion using the office method and perspective plan method and verify the height using the direct projection method. Both tracing and work sheet shall be turned in to be evaluated by the instructor based on accuracy of drawing. Margin of error 1/16".

   Base Criterion 75% Class Reaching Standard 95%

3. The student will be able to transfer the knowledge and skill obtained from objective number 2 and apply the underlying principles to an interior problems. Two hours.

   Base Criterion 75% Class Reaching Standard 75%

4. During the laboratory session, the student will be able to draw angles, compound angles, arcs and cir-

cles, and compound arcs in perspective. Eight hours.

Base Criterion 75% Class Reaching Standard 75%

5. The student shall learn the value of the rule of diagonal by applying the principle to a given problem.

   Base Criterion 90% Class Reaching Standard 80%

6. The student shall understand how to find the vanishing point of an angle and compound angle by the use of the trace line. Margin of error 1/32" on construction lines and 1/16" on point location.

   Base Criterion 80% Class Reaching Standard 75%

UNIT THREE

MULTI-VANISHING POINT

A. Major Concept

The student understand that there is no limit to the number of vanishing points used.

B. Objectives

1. Given a problem using many vanishing points, the student shall be able to apply the principles from Unit Two to this new situation.

   Base Criterion 70% Class Reachinf Standard 85%

2. Given a problem with a multitude of angles on it, the student will set up the problem, locate the number of vanishing points required and construct the required perspective drawing. Four hours.

   Base Criterion 75% Class Reaching Standard 80%

UNIT FOUR

ONE POINT PERSPECTIVE

A. Major Concept

The student shall understand the implications involved in constructing an object in one point perspective.

B. Objectives

1. The student understand the importance of the location of the object on the picture plane.

   Base Criterion 100% Class Reaching Standard 95%

2. The student realize the value of the reference line to obtain accuracy in a drawing.

   Base Criterion 90% Class Reaching Standard 85%

3. During the laboratory session, the student will develop a problem, assigned by the instructor, to its conclusion using the Office Method or the Perspective Plan Method and verify the results with the Direct Projection Method.

4. Outside of class, the student shall develop a problem, the instructor assigns, to its conclusion and utilize the method of appraoch acquired in Unit Two in dealing with angles, compound angles, arcs and circles, and compound arcs and circles.

   Base Criterion 75% Class Reaching Standard 75%

C. Plan [illegible]

UNIT FIVE

THREE POINT PERSPECTIVE

A. Major Concept

The student will understand the conpcet of "total perspective drawings" by way of the three point perspective system.

B. Objectives

1. The student shall comprehend the relationship that exist between the plan and elevation of a single angle and that of a compound angle.

   Base Criterion 85% Class Reaching Standard 85%

2. By way of an assignment by the instructor, the student shall be able to relocate the new station point in relationship to the new compounded plan angle and elevation.

   Base Criterion 100% Class Reaching Standard 90%

3. The student shall realize the importance of the relocation of the horizon line, and the relocation of the vanishing points in relationship to the checking of the original drawing.

   Base Criterion 90% Class Reaching Standard 90%

4. The student shall learn the function of the third vanishing point as it relates to the original two vanishing points.

   Base Criterion 75% Class Reaching Standard 75%

UNIT SIX

GRIDS AND SHORT-CUTS

A. Major Concept

To familiarize student with various means of drawing perspectives other than the standard descriptive geometry approach.

B. Objectives

1. The student shall learn the logic used to construct the various short-cut devices and also learn how to use them effectively.

   Base Criterion 100% Class Reaching Standard 95%

2. Outside of class, the student shall develop a sketch based on one of the devices used and described by the instructor in his demonstration lecture.

   Base Criterion 100% Class Reaching Standard 100%

UNIT SEVEN

SHADE AND SHADOW

A. Major Concept

The student shall understand the principles underlying shade and shadow.

B. Objectives

1. The student shall be able to differentiate between shade and shadow.

   Base Criterion 100% Class Reaching Standard 95%

2. When given plans and elevations, by the instructor, the student shall be able to plot the shadow mechanically on itself, the ground, on a bent plane and against a wall or column.

   Base Criterion 75% Class Reaching Standard 75%

3. When given a perspective drawing, the student shall be able to cast the shadow and locate the shade with a high degree of success as determined by the instructor when the sun is parallel to the picture plane.

   Base Criterion 90% Class Reaching Standard 80%

4. Given a problem, by the instructor, the student shall be able to construct the object, establish the horizontal vanishing points, and plot the shades and shadows.

Base Criterion 75% Class Reaching Standard 80%

5. Given a drawing of an interior of a room, with an artificial light source, the student shall be able to locate the areas in shade and plot the shadows of various objects.

Base Criterion 80% Class Reaching Standard 85%

UNIT EIGHT

REFLECTION

A. Major Concept

The student shall understand the principles that is a basis for all reflection conditions.

B. Objectives

1. The student, given a drawingof objects in water, shall be able to locate the point of reflection.

Base Criterion 90% Class Reaching Standard 95%

2. The student shall be able to reflect objects in water by mechanical means and in each instance be able to locate the water line.

Base Criterion 85% Class Reaching Standard 85%

3. Given a drawing, with a mirror in it, the student shall be able to reflect various shaped objects into the mirror.

Base Criterion 75% Class Reaching Standard 80%

4. The student shall be able to use the skill and knowledge, acquired in units Two and Seven, in reflecting objects in glass.

Base Criterion 75% Class Reaching Standard 80%